

1/15

FIG. 1

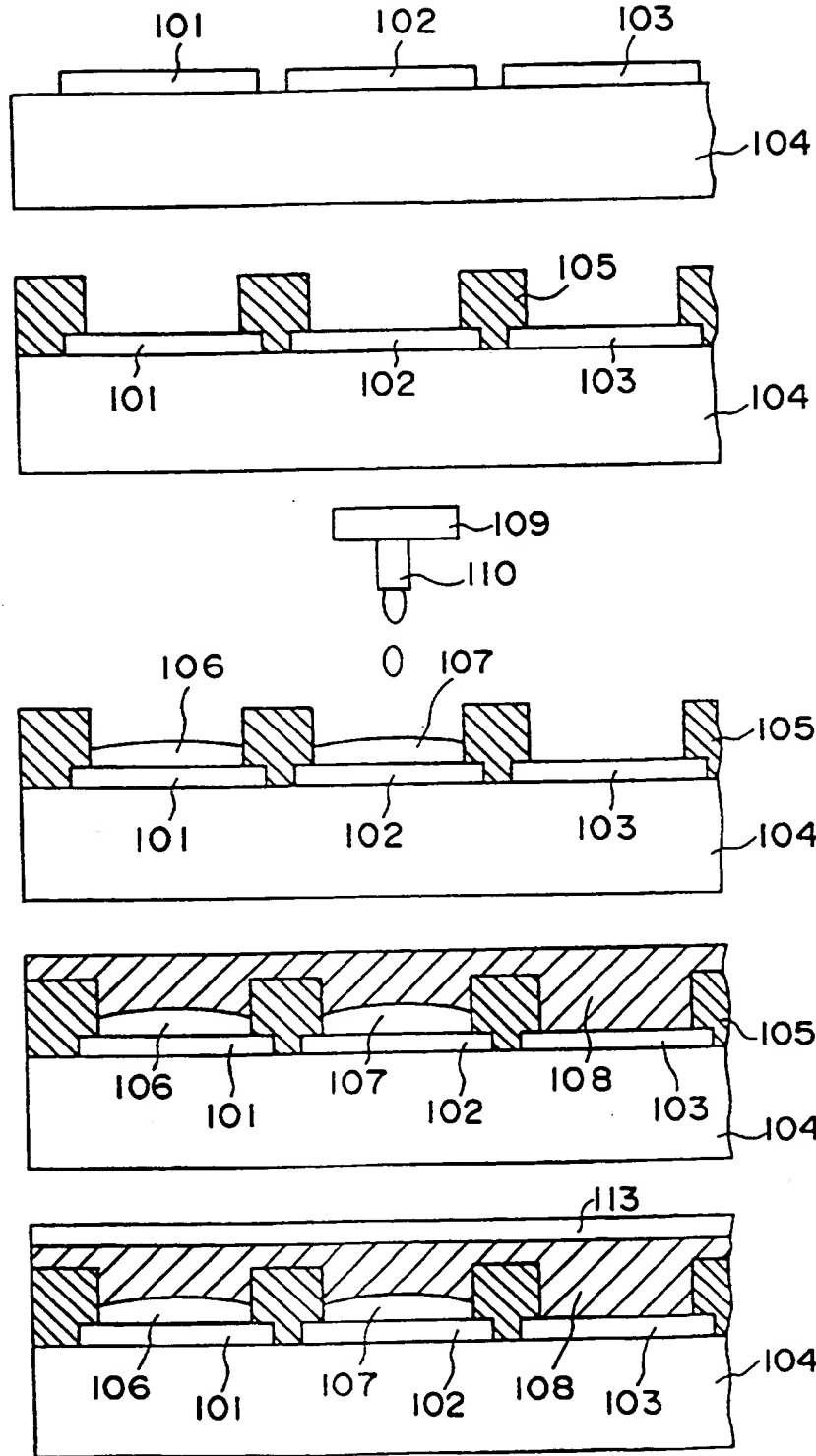


FIG. 2

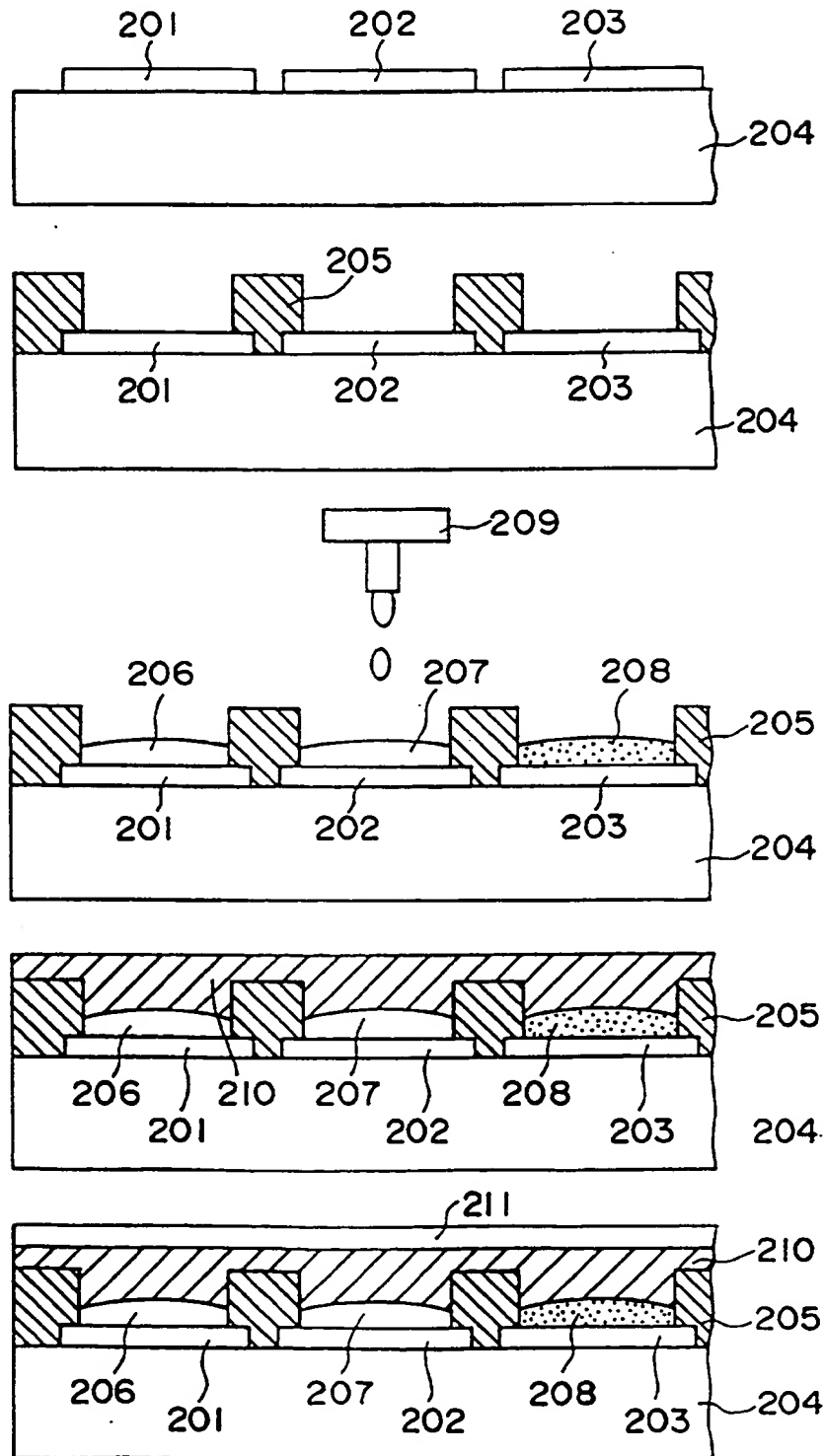


FIG. 3

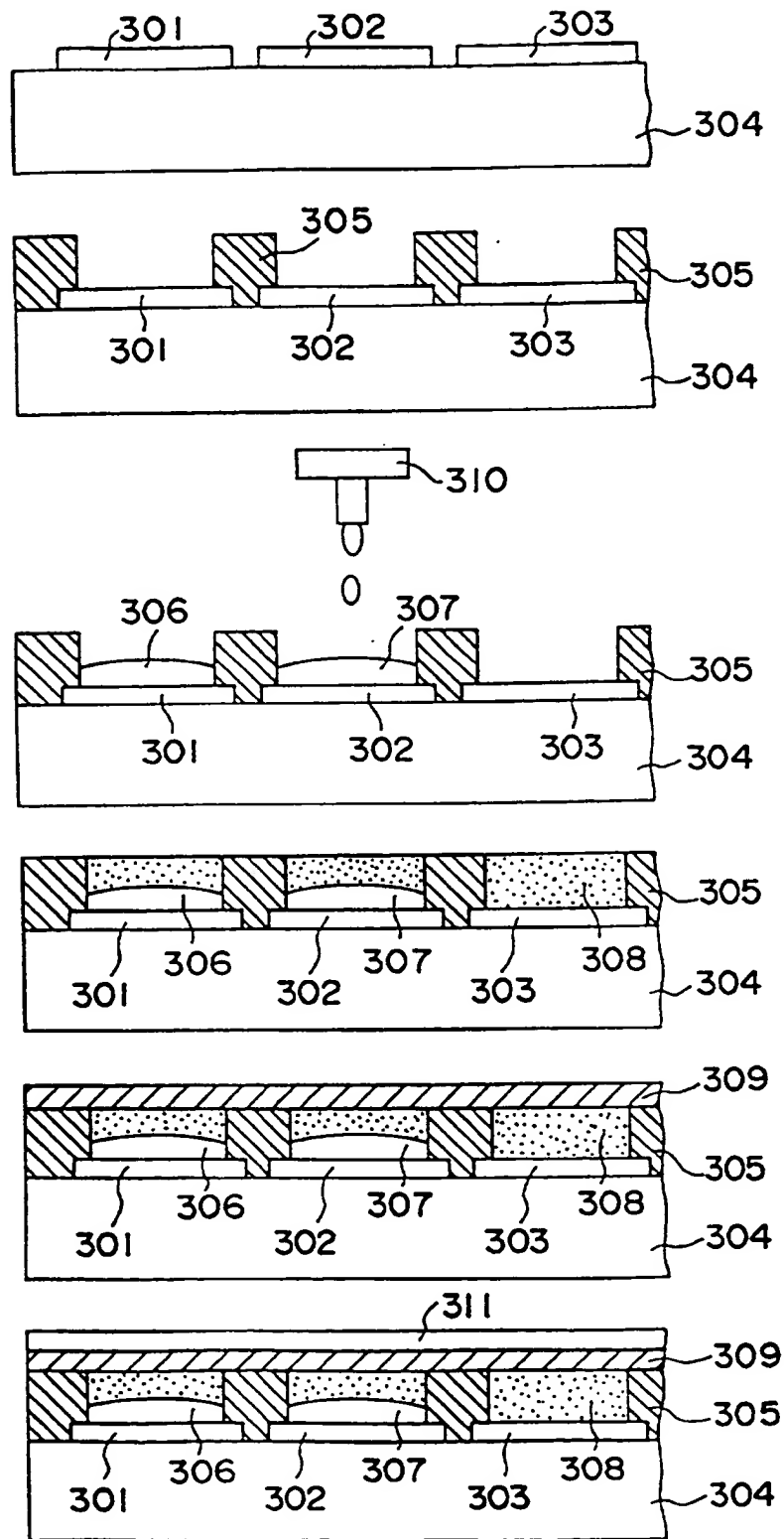


FIG. 4

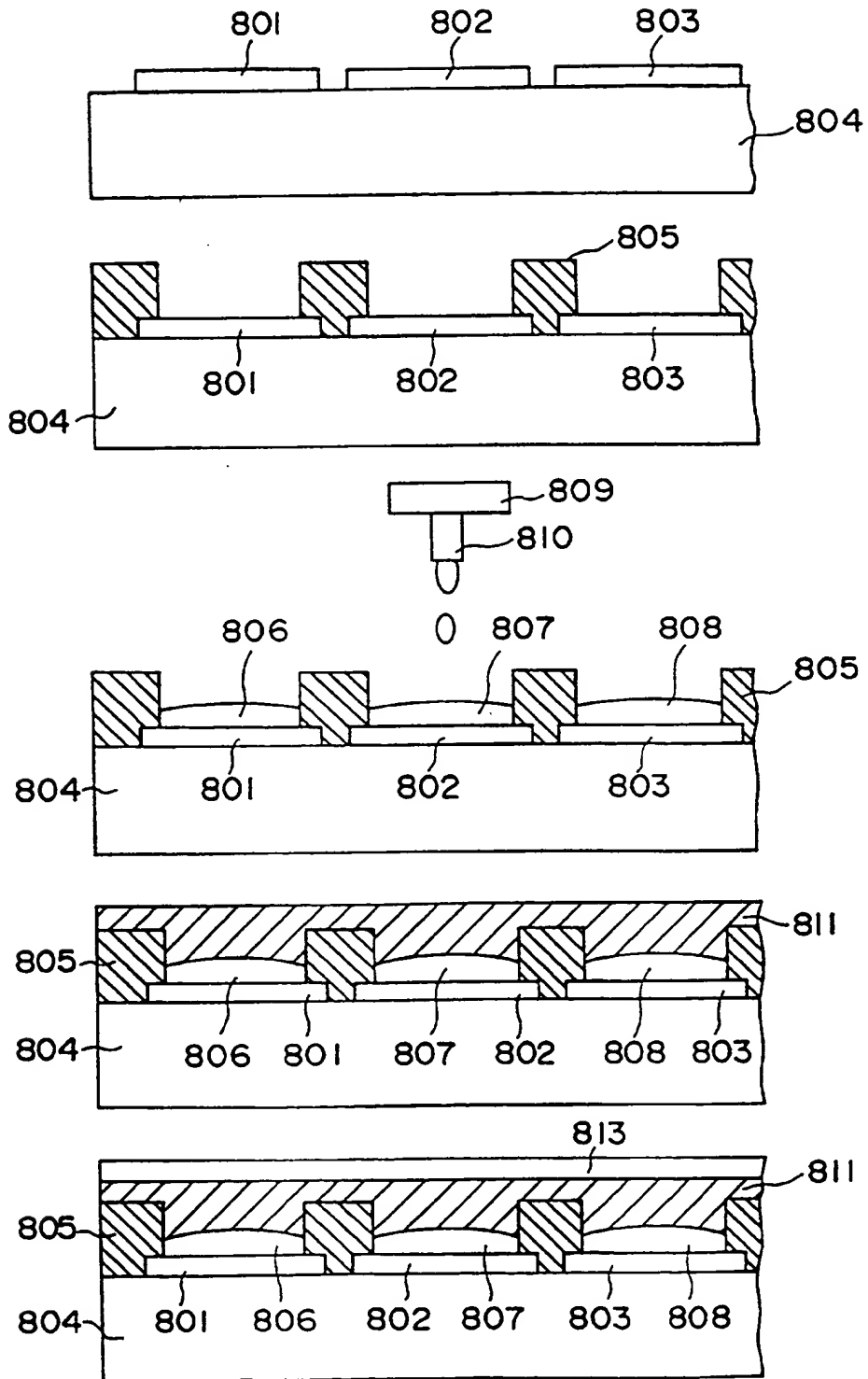


FIG. 6

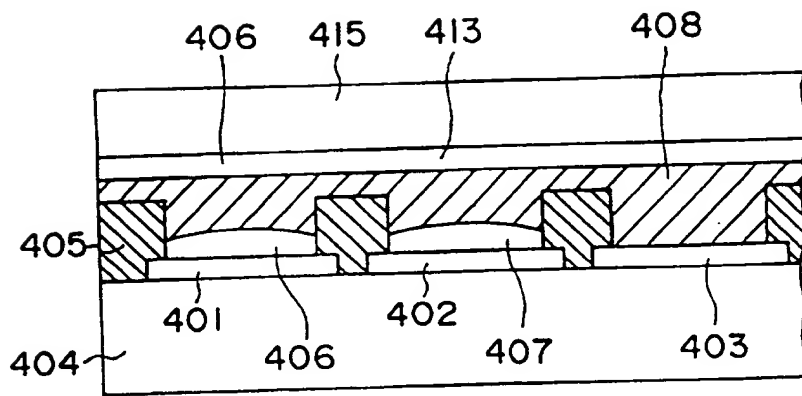


FIG. 6

FIG. 7

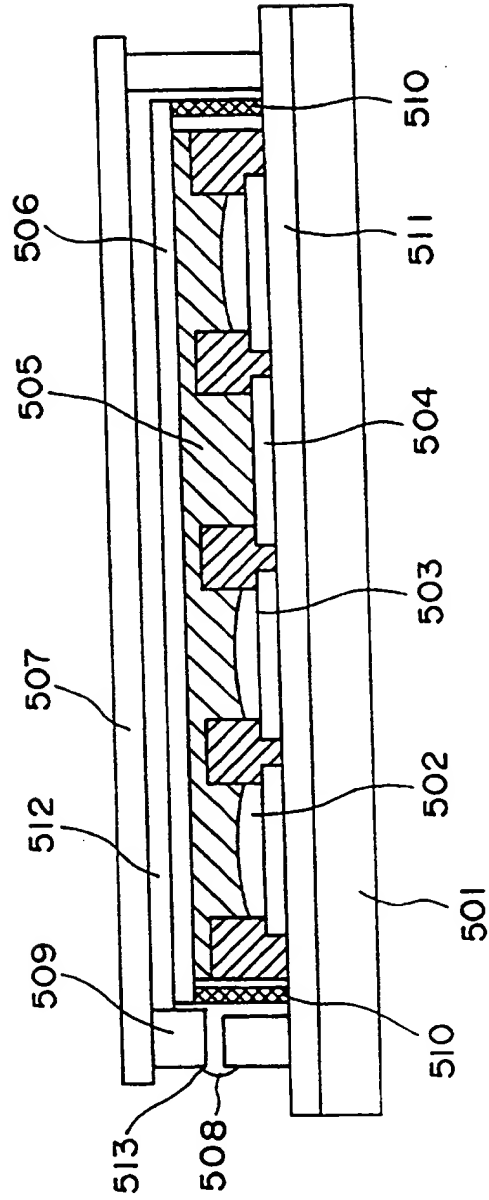


FIG. 8

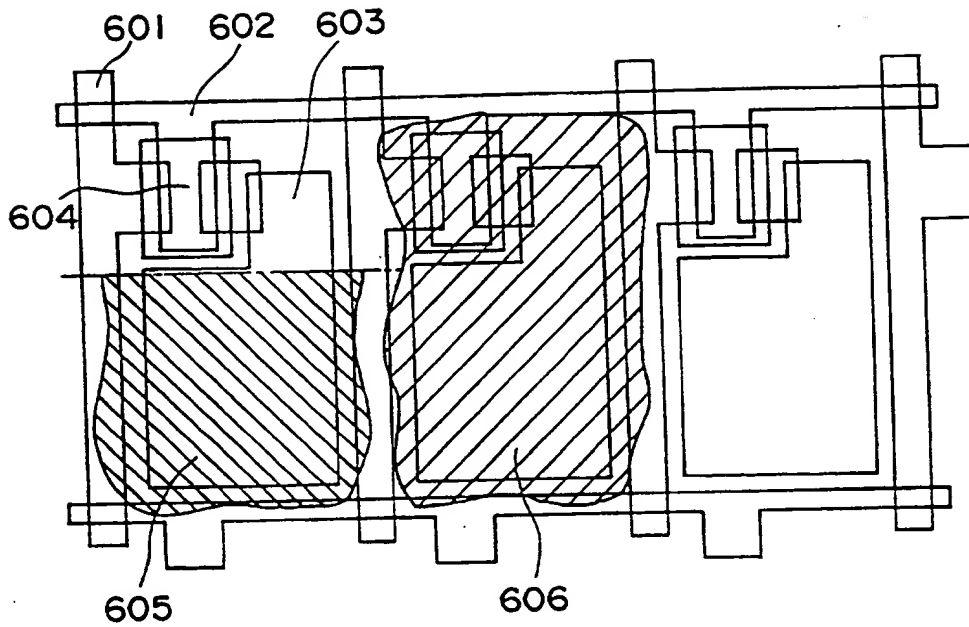


FIG. 9

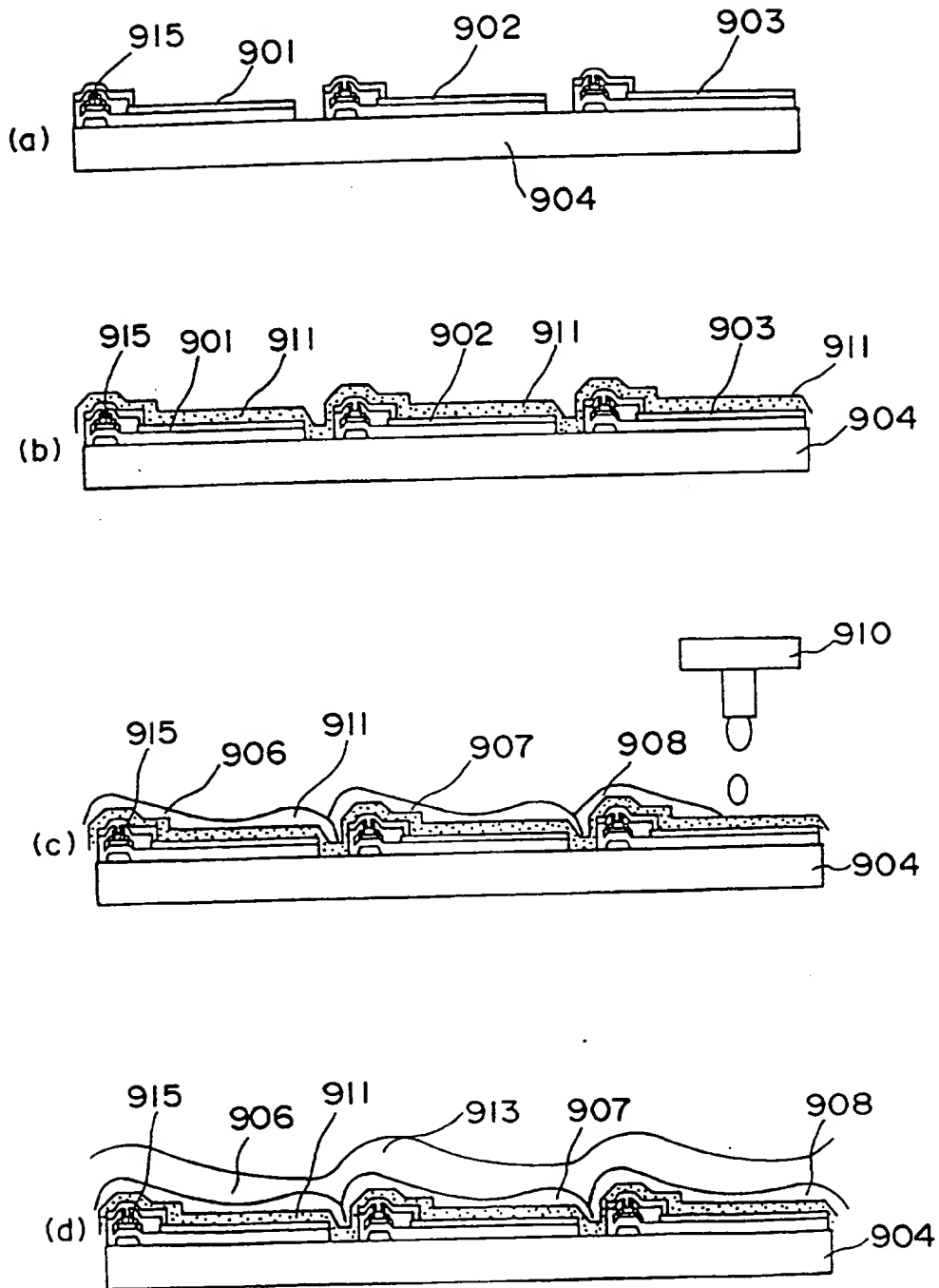


FIG. 10

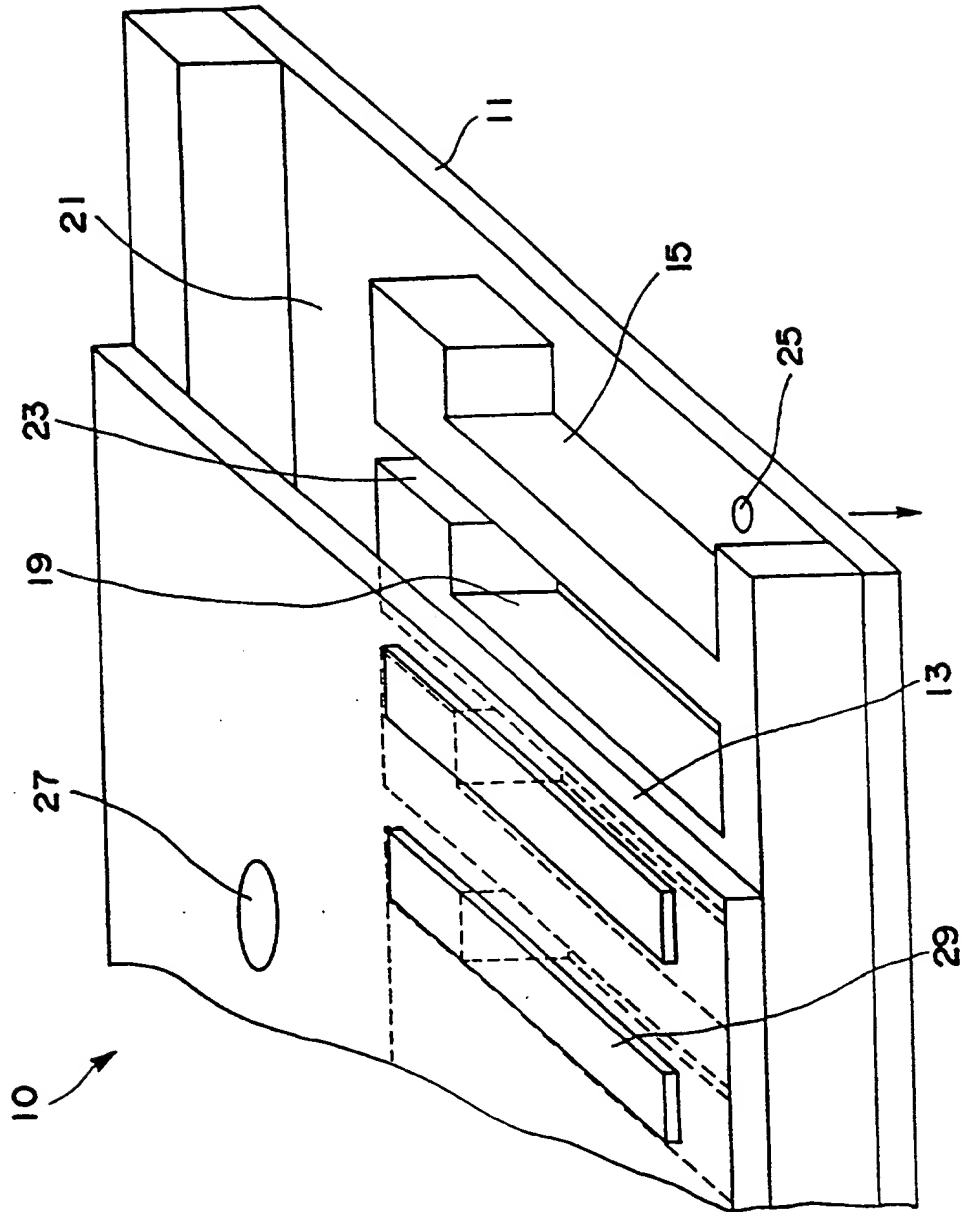


FIG. 10

FIG. 11

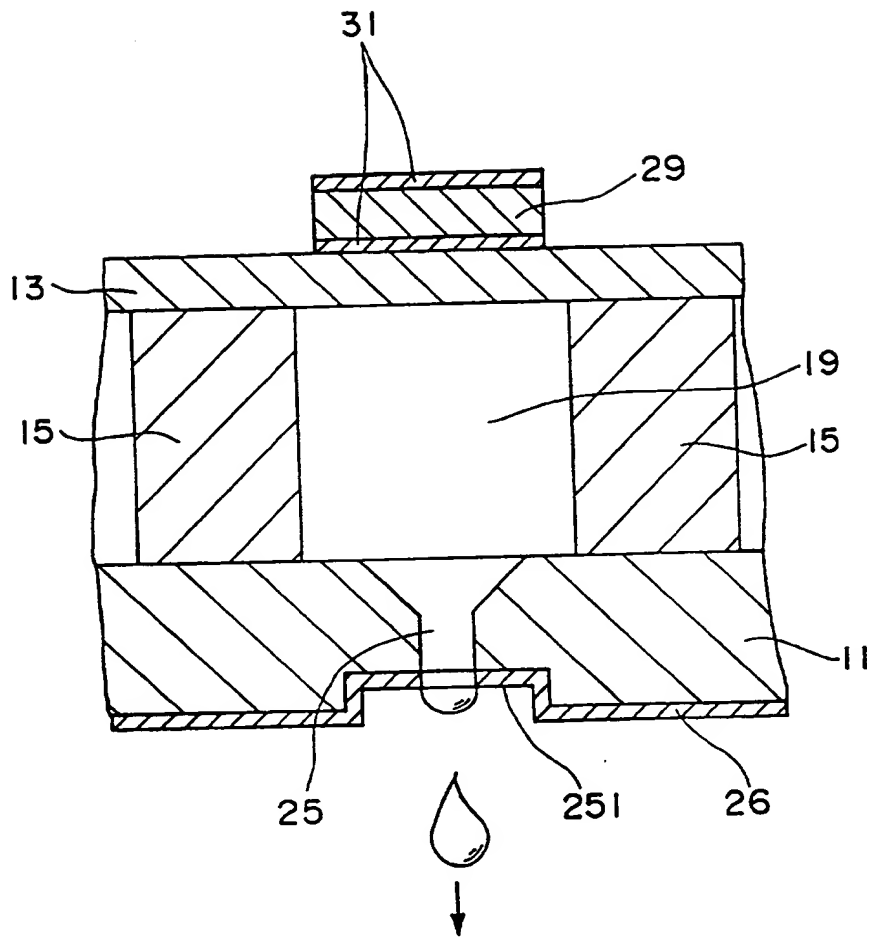
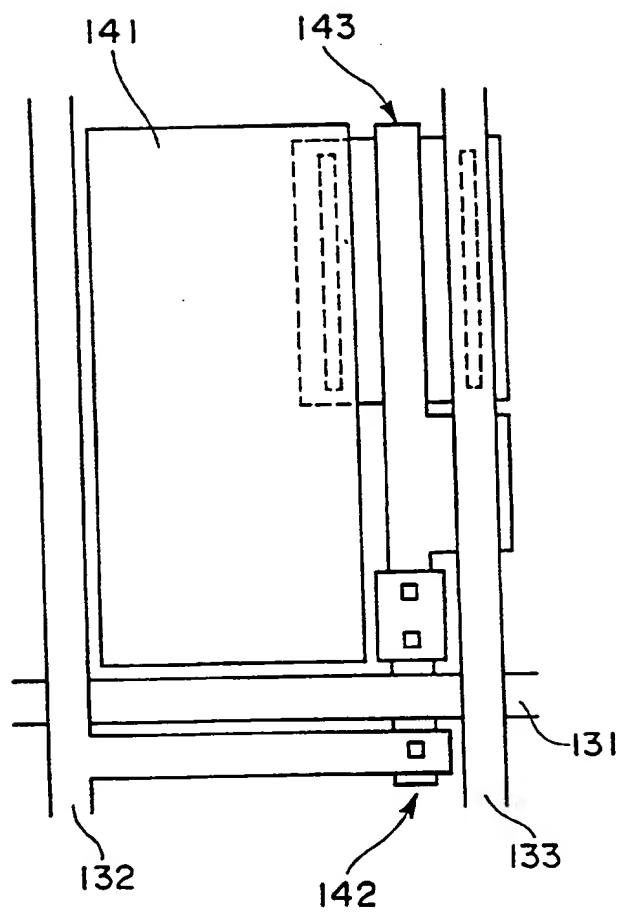


FIG. 11

FIG. 12



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FIG. 13

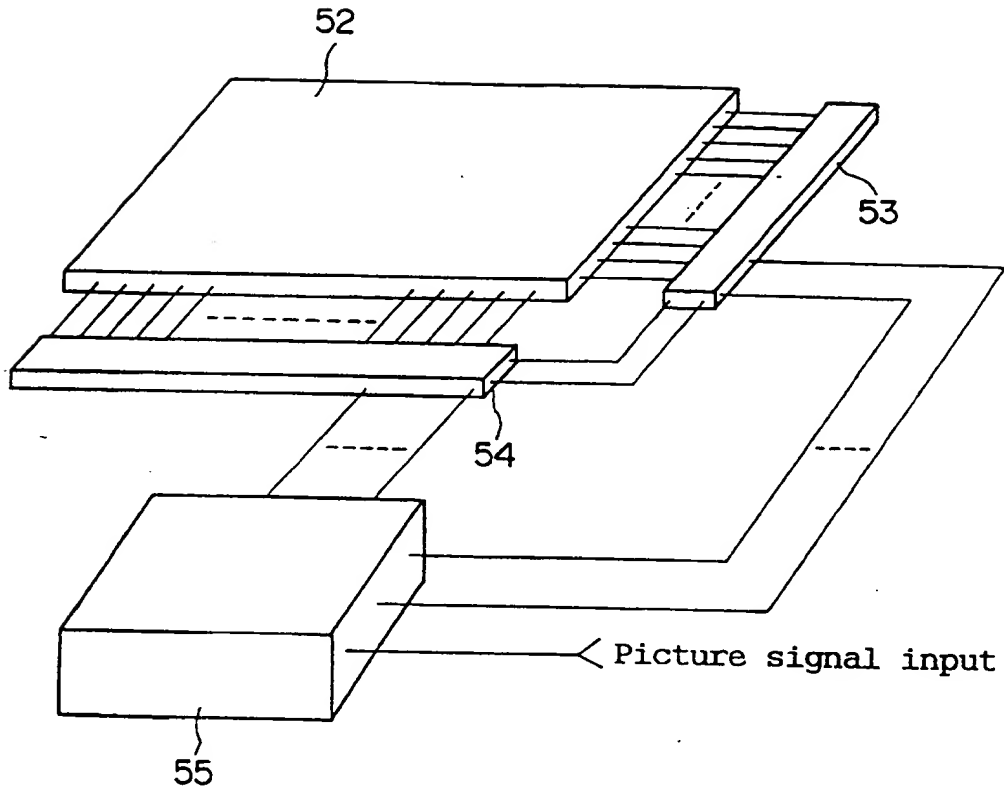


FIG. 13

FIG. 14

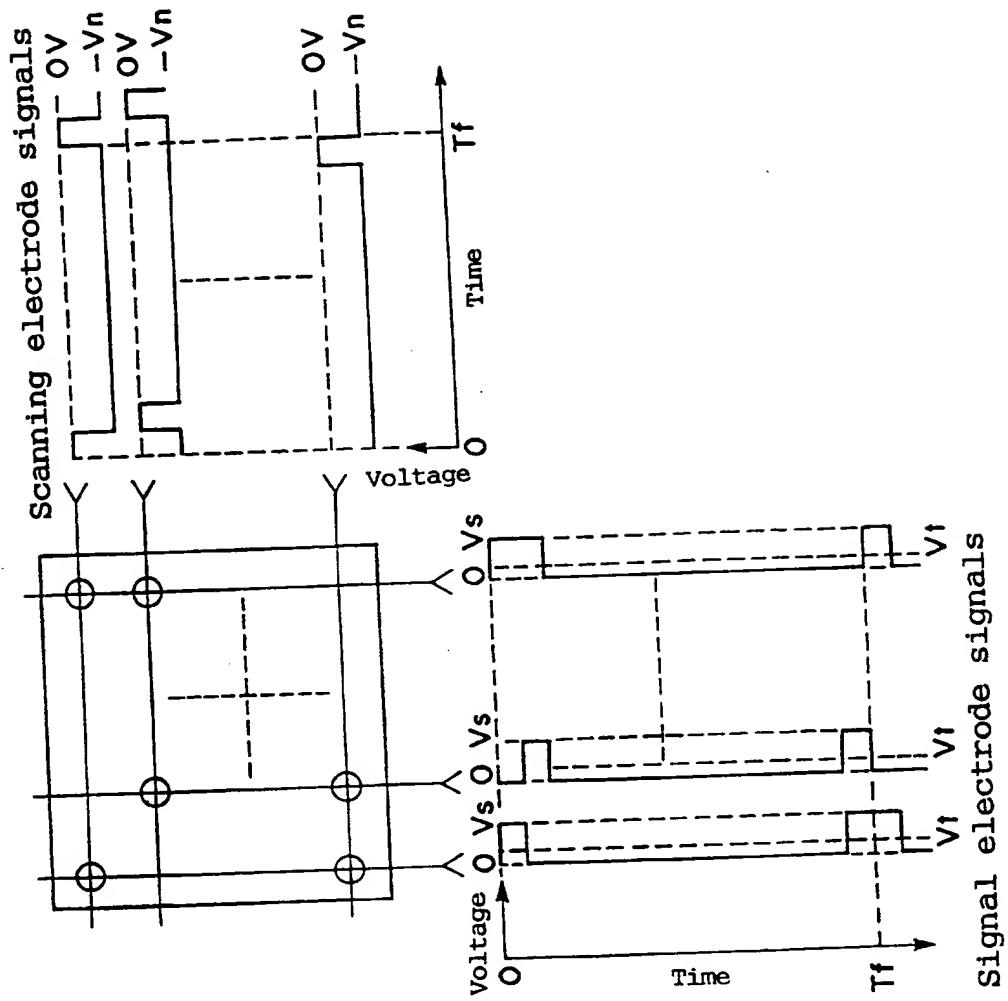


FIG. 15

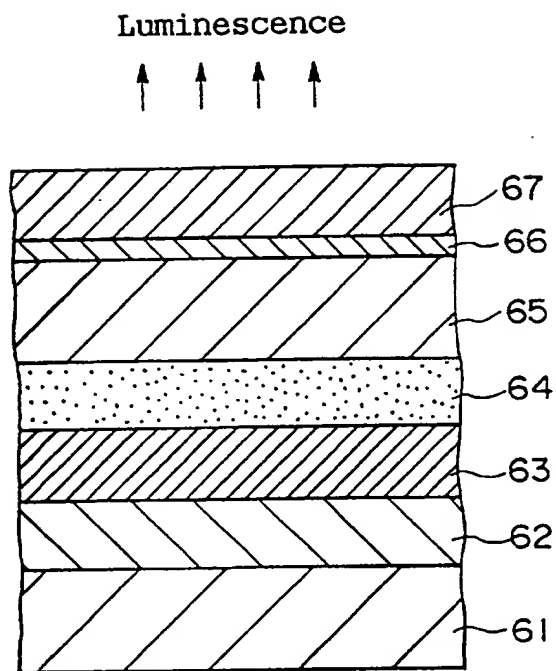


FIG. 15

Table 1

	Luminescent Layer				Layer between Layers
	Red	Green	Blue		
Example 1	Luminescent Material	CN-PPV Precursor	PPV Precursor	Aluminum Quinolinol Complex	—
	Forming Method	Ink-Jet System	Ink-Jet System	Vacuum Deposition Method	
Example 2	Luminescent Material	CN-PPV Precursor	PPV Precursor	Pyrazoline Dimer	PVK (Hole Injection Layer)
	Forming Method	Ink-Jet System	Ink-Jet System	Coating Method	Ink-Jet System
Example 3	Luminescent Material	2-13', 4'-dihydroxyphenyl-3,5,7-trihydroxy-1-benzopyrylium perchlorate	2,3,6,7-tetrahydro-11-oxo-1H,5H,11H-(1)benzopyrano[6,7,8-ij]-quinolizine-10-carboxylic acid	2,3,6,7-tetrahydro-9-methyl-11-oxo-1H,5H,11H-(1)benzopyrano[6,7,8-ij]-quinolizine	—
		1,1-bis-(4-N,N-ditolylaminophenyl) cyclohexane (Hole Injection Layer Material)	1,1-bis-(4-N,N-ditolylaminophenyl) cyclohexane (Hole injection layer Material)	Tris(8-hydroxyquinolinol) aluminum (Hole injection layer Material)	
Example 4	Forming Method	Ink-Jet System	Ink-Jet System	Ink-Jet System	PVK (Hole Injection Layer)
	Luminescent Material	CN-PPV Precursor	PPV Precursor	Distyryl Derivative	Vacuum Deposition Method
	Forming Method	Ink-Jet System	Ink-Jet System	Coating Method	
Example 5	Luminescent Material	PPV Precursor	PPV Precursor	PPV Precursor	—
		Rhodamine B (Fluorescent Dye)	—	Distyrylbiphenyl (Fluorescent Dye)	
	Forming Method	Ink-Jet System	Ink-Jet System	Ink-Jet System	

Table 2

Physical Properties of Composition for EL Element		Viscosity [cp]	Surface Tension [dyne/cm]	Contact Angle [°]
Example 1	Red	3.77	32.9	54.4
	Green	3.72	32.8	59.0
	Blue	—	—	—
Example 2	Red	3.70	32.6	55.6
	Green	7.73	33.1	59.8
	Blue	3.88	33.3	60.0
Example 3	Red	4.85	27.8	47.8
	Green	5.31	25.6	45.6
	Blue	4.52	28.2	40.3
Example 4	Red	3.78	33.5	60.1
	Green	3.75	32.1	59.7
	Blue	—	—	—
Example 5	Red	3.80	33.1	55.0
	Green	3.75	32.9	59.1
	Blue	3.91	33.2	60.2

Table 3

	Luminescence Starting Voltage [V _{th}]			Luminescence Life [hr]			Luminance [cd/m ²]			Wavelength at Maximum Absorption [nm]		
	R	G	B	R	G	B	R	G	B	R	G	B
Example 1	2.0	2.2	3.1	8000	8000	8000	210	230	200	600	500	400
Example 2	1.7	1.8	3.2	10000	10000	9000	230	230	180	600	500	410
Example 3	4.0	3.5	3.8	4000	5000	4000	150	180	100	580	510	420
Example 4	1.7	1.8	2.2	10000	10000	10000	250	250	200	600	530	480
Example 5	3.0	3.2	5.0	5000	5000	5000	200	200	200	590	530	420

Table 4

	Stability in Film Formation		
	R	G	B
Example 1	○	○	○
Example 2	○	○	○
Example 3	○	○	○
Example 4	○	○	○
Example 5	○	○	○